0590





OIPE

RAW SEQUENCE LISTING

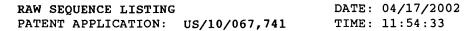
PATENT APPLICATION: US/10/067,741

DATE: 04/17/2002 TIME: 11:54:33

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1 <110> APPLICANT: Dean A. Falb
         Katherine Galvin
         Michael Donovan
 4
         Dennis Huszar
 5
        Michael A. Gimbrone, Jr.
  <120> TITLE OF INVENTION: Compositions and Methods for the Treatment and
         Diagnosis of
 8
         Cardiovascular Disease
 9 <130> FILE REFERENCE: 7853-140-999
10 <140> CURRENT APPLICATION NUMBER: 10/067,741
11 <141> CURRENT FILING DATE: 2002-02-08
13 <150> PRIOR APPLICATION NUMBER: US/09/288,292
14 <151> PRIOR FILING DATE: 1999-04-08
                                                   ENTERED
16 <150> PRIOR APPLICATION NUMBER: 08/870,434
17 <151> PRIOR FILING DATE: 1997-06-06
18 <150> PRIOR APPLICATION NUMBER: 08/799,910
19 <151> PRIOR FILING DATE: 1997-02-13
20 <150> PRIOR APPLICATION NUMBER: 60/011,787
21 <151> PRIOR FILING DATE: 1996-02-16
22 <150> PRIOR APPLICATION NUMBER: 08/485,573
23 <151> PRIOR FILING DATE: 1995-06-07
24 <150> PRIOR APPLICATION NUMBER: 08/386,844
25 <151> PRIOR FILING DATE: 1995-02-10
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31 <212> TYPE: DNA
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                                                                               120
39
        ccgccgccta ggactagggg gtgggggacg gacaagcccc g atg ccg ggg gag acg
                                                                               176
40
                                                       Met Pro Gly Glu Thr
41
42
        gaa gag ccg aga ccc ccg gag cag cag gac cag gaa ggg gga gag gcg
                                                                               224
43
        Glu Glu Pro Arg Pro Pro Glu Gln Gln Asp Gln Glu Gly Gly Glu Ala
44
                          10
                                              15
45
        gcc aag gcg gct ccg gag gag ccc caa caa cgg ccc cct gag gcg gtc
                                                                               272
        Ala Lys Ala Ala Pro Glu Glu Pro Gln Gln Arg Pro Pro Glu Ala Val
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RAW SEQUENCE LISTING DATE: 04/17/2002 PATENT APPLICATION: US/10/067,741 TIME: 11:54:33

| 47       |     |     |       | 25             |            |      |      |          | 30  |     |     |              |     | 35   |                |            |      |
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| 48       | qcq | qcq | qcq   |                | gca        | qqq  | acc  | act      | agc | agc | cgc | gtg          | ctg | agg  | gga            | ggt        | 320  |
| 49       |     |     |       |                | Āla        |      |      |          |     |     |     |              |     |      |                |            |      |
| 50       |     |     | 40    |                |            | _    |      | 45       |     |     |     |              | 50  |      |                |            |      |
| 51       | cgg | gac | cga   | ggc            | cgg        | gcc  | gct  | gcg      | gcc | gcc | gcc | gcc          | gca | gct  | gtg            | tcc        | 368  |
| 52       | Arg | Asp | Arg   | Gly            | Arg        | Ala  | Ala  | Ala      | Ala | Ala | Ala | Ala          | Ala | Ala  | Val            | Ser        |      |
| 53       |     | 55  |       |                |            |      | 60   |          |     |     |     | 65           |     |      |                |            |      |
| 54       | cgc | cgg | agg   | aag            | gcc        | gag  | tat  | ccc      | cgc | cgg | cgg | agg          | agc | agc  | ccc            | agc        | 416  |
| 55       | Arg | Arg | Arg   | Lys            | Ala        | Glu  | Tyr  | Pro      | Arg | Arg | Arg | Arg          | Ser | Ser  | Pro            | Ser        |      |
| 56       | 70  |     |       |                |            | 75   |      |          |     |     | 80  |              |     |      |                | 85         |      |
| 57       | gcc | agg | cct   | ccc            | gac        | gtc  | CCC  | ggg      | cag | cag | ccc | cag          | gcc | gcg  | aag            | tcc        | 464  |
| 58       | Ala | Arg | Pro   | Pro            | Asp        | Val  | Pro  | Gly      | Gln | Gln | Pro | Gln          | Ala | Ala  | Lys            | Ser        |      |
| 59       |     |     |       |                | 90         |      |      |          |     | 95  |     |              |     |      | 100            |            |      |
| 60       | _   |     |       | _              | cag        |      | _    |          | -   | _   |     |              |     |      |                |            | 512  |
| 61       | Pro | Ser | Pro   | Val            | Gln        | Gly  | Lys  | Lys      |     | Pro | Arg | Leu          | Leu |      | Ile            | Glu        |      |
| 62       |     |     |       | 105            |            |      |      |          | 110 |     |     |              |     | 115  |                |            |      |
| 63       |     |     |       |                | gat        |      |      |          |     |     |     |              |     |      |                |            | 560  |
| 64       | Lys | Val |       | Thr            | Asp        | Lys  | Asp  |          | Lys | Glu | Glu | Lys          |     | Glu  | Glu            | Asp        |      |
| 65       |     |     | 120   |                |            |      |      | 125      |     |     |     |              | 130 |      |                |            |      |
| 66       |     |     |       |                | cct        |      |      |          |     |     |     |              |     |      |                |            | 608  |
| 67       | Asp |     | Ala   | Leu            | Pro        | GIn  |      | Val      | Ser | IIe | Ala |              | Ser | Arg  | Pro            | Ser        |      |
| 68       |     | 135 |       |                |            |      | 140  |          |     |     |     | 145          |     |      |                |            | 656  |
| 69       | cgg |     |       |                |            |      |      |          |     |     |     |              |     |      |                |            | 656  |
| 70       | _   | GLY | Trp   | Arg            | Ser        |      | Arg  | Thr      | Ser | vaı |     | Arg          | HIS | Arg  | Asp            |            |      |
| 71       | 150 |     |       |                |            | 155  |      | <b>.</b> |     |     | 160 |              |     |      | -+-            | 165        | 704  |
| 72<br>73 |     |     |       |                | agc        |      |      |          |     |     |     |              |     |      |                |            | 704  |
| 73       | GIU | ASI | Thr   | Arg            | Ser<br>170 | ser  | Arg  | ser      | гуѕ | 175 | GIY | ser          | ьеи | GIII | 180            | 116        |      |
| 74<br>75 | +~~ | 224 | + ~ ~ | <b>~</b> ~ ~ ~ | cca        | 22+  | 202  | ~ · ·    | •   |     | an+ | + + +        | ast | a++  |                | <b>422</b> | 752  |
| 75<br>76 | -   |     |       |                | Pro        |      |      |          |     |     |     |              |     |      |                |            | 732  |
| 77       | Cys | шуз | Jer   | 185            | 110        | ASII | 1111 | nsp      | 190 | пси | nsp | - <u>y</u> - | пор | 195  | O <sub>1</sub> | 014        |      |
| 78       | αεσ | cat | cad   |                | cca        | aat  | aac  | att      |     | aat | gaa | αaα          | gaa |      | σασ            | gag        | 800  |
| 79       |     |     | _     |                | Pro        |      |      |          | _   |     | _   |              | _   |      |                |            |      |
| 80       | O_u |     | 200   |                |            | 021  | 011  | 205      |     | 1   |     |              | 210 |      |                |            |      |
| 81       | σaa | σaa |       | atq            | tta        | atc  | agt  |          | gag | σασ | ata | cca          |     | aaa  | gat            | gat        | 848  |
| 82       |     |     |       |                | Leu        |      |      |          |     |     |     |              |     |      |                |            |      |
| 83       |     | 215 |       |                |            |      | 220  |          |     |     |     | 225          |     | •    | -              | -          |      |
| 84       | cca |     | gat   | gag            | acc        | tac  | aaa  | ccc      | cac | tta | gaa | agg          | gaa | acc  | cca            | aag        | 896  |
| 85       |     |     |       |                | Thr        |      |      |          |     |     |     |              |     |      |                |            |      |
| 86       | 230 | _   | -     |                |            | 235  | -    |          |     |     | 240 | _            |     |      |                | 245        |      |
| 87       | cca | cgg | aga   | aaa            | tca        | ggg  | aag  | gta      | aaa | gaa | gag | aag          | gag | aag  | aag            | gaa        | 944  |
| 88       |     |     |       |                | Ser        |      |      |          |     |     |     |              |     |      |                |            |      |
| 89       |     | _   | _     | _              | 250        | _    | _    |          |     | 255 |     |              |     |      | 260            |            |      |
| 90       | att | aaa | gtg   | gaa            | gta        | gag  | gtg  | gag      | gtg | aaa | gaa | gag          | gag | aat  | gaa            | att        | 992  |
| 91       |     |     |       |                | Val        |      |      |          |     |     |     |              |     |      |                |            |      |
| 92       |     |     |       | 265            |            |      |      |          | 270 |     |     |              |     | 275  |                |            |      |
| 93       |     |     |       |                | gaa        |      |      |          |     |     |     |              |     |      |                |            | 1040 |
| 94       | Arg | Glu | Asp   | Glu            | Glu        | Pro  | Pro  |          | Lys | Arg | Gly | Arg          |     | Arg  | Lys            | Asp        |      |
| 95       |     |     | 280   |                |            |      |      | 285      |     |     |     |              | 290 |      |                |            |      |



| 96<br>97   | -   |     | -   |       | _     |     |     |     |     | -     |     | aag<br>Lys |     |     |             | -   | 1088 |
|------------|-----|-----|-----|-------|-------|-----|-----|-----|-----|-------|-----|------------|-----|-----|-------------|-----|------|
| 98         |     | 295 |     |       | ••- 5 |     | 300 |     | 5   | 5     | _1_ | 305        |     |     |             |     |      |
| 99         | tat | gtc | cgt | tgt   | gag   | atg | gaa | gga | tgt | gga   | act | gtc        | ctt | gcc | cat         | cct | 1136 |
| 100        |     | _   | _   | _     |       | _   | _   |     | _   |       |     | Val        |     | -   |             |     |      |
| 101        | 310 |     | _   | -     |       | 315 |     | -   | _   | -     | 320 |            |     |     |             | 325 |      |
| 102        | cgc | tat | ttg | cag   | cac   | cac | att | aaa | tac | cag   | cat | ttg        | ctg | aag | aag         | aaa | 1184 |
| 103        | Arg | Tyr | Leu | Glr   | His   | His | Ile | Lys | Tyr | Gln   | His | Leu        | Leu | Lys | Lys         | Lys |      |
| 104        | _   | _   |     |       | 330   |     |     | _   | _   | 335   | ;   |            |     | _   | 340         | _   |      |
| 105        | tat | gta | tgt | ccc   | cat   | ccc | tcc | tgt | gga | cga   | cto | ttc        | agg | ctt | cag         | aag | 1232 |
| 106        | Tyr | Val | Cys | Pro   | His   | Pro | Ser | Cys | Gly | Arg   | Leu | Phe        | Arg | Leu | Gln         | Lys |      |
| 107        |     |     |     | 345   | 5     |     |     |     | 350 | )     |     |            |     | 355 |             |     |      |
| 108        | caa | ctt | ctg | cga   | cat   | gcc | aaa | cat | cat | aca   | gat | caa        | agg | gat | tat         | atc | 1280 |
| 109        | Gln | Leu | Leu | Arg   | His   | Ala | Lys | His | His | Thr   | Asp | Gln        | Arg | Asp | Tyr         | Ile |      |
| 110        |     |     | 360 |       |       |     |     | 365 |     |       | •   |            | 370 |     |             |     |      |
| 111 '      | tgt | gaa | tat | . tgt | gct   | cgg | gcc | ttc | aag | agt   | tcc | cac        | aat | ctg | gca         | gtg | 1328 |
| 112        | Cys | Glu | Tyr | Cys   | Ala   | Arg | Ala | Phe | Lys | Ser   | Ser | His        | Asn | Leu | Ala         | Val |      |
| 113        |     | 375 | i   |       |       |     | 380 |     |     |       |     | 385        |     |     |             |     |      |
| 114        |     |     | -   |       |       |     |     |     | -   |       |     | caa        | -   |     |             | -   | 1376 |
| 115        |     | -   | Met | Ile   | His   |     | _   | Glu | Lys | Pro   |     | Gln        | Cys | Glu | Ile         | -   |      |
| 116        | 390 |     |     |       |       | 395 |     |     |     |       | 400 |            |     |     |             | 405 |      |
| 117        |     |     |     | -     | _     |     | _   | -   |     |       |     | tgg        |     | _   | _           |     | 1424 |
| 118        | Gly | Phe | Thr | Cys   | -     | Gln | Lys | Ala | Ser |       |     | Trp        | His | Met | _           | Lys |      |
| 119        |     |     |     |       | 410   |     |     |     |     | 415   |     |            |     |     | 420         |     | 4.50 |
| 120        |     | _   | _   | _     |       |     |     | _   |     |       |     | aat        |     |     | -           |     | 1472 |
| 121        | His | Asp | Ala | _     |       | Phe | Tyr | GIn |     |       | Cys | Asn        | TTE | _   | GTĀ         | Lys |      |
| 122        |     |     |     | 425   |       |     |     |     | 430 |       |     |            |     | 435 |             |     | 1500 |
| 123        |     |     |     | -     | _     | -   | _   | -   |     | -     |     | aag        | -   |     | -           |     | 1520 |
| 124        | гÀг | Pne | 440 | _     | гуs   | Asp | ser |     |     | Ата   | HIS | Lys        | 450 | _   | ser         | HIS |      |
| 125<br>126 | aat | ~~~ |     |       | ++    | ~~~ | ~~~ | 445 |     | - aat | ~~~ | +          |     |     | <b>a</b> aa | ata | 1568 |
| 126        |     |     |     |       |       | -   |     |     | _   |       |     | aat<br>Asn |     |     |             |     | 1300 |
| 128        | FIC | 455 |     | пес   | 110   | Ala | 460 |     | пец | Ала   | Ата | 465        | Ala | Gry | пта         | пец |      |
| 129        | ato |     |     | aca   | σat   | atc |     |     | act | aac   | cca | gag        | tcc | cta | acq         | cad | 1616 |
| 130        |     |     | _   |       | _     |     | _   |     |     |       |     | Glu        |     | _   | _           |     | 1010 |
| 131        | 470 |     | 001 |       | 1105  | 475 |     | 011 |     | 11011 | 480 |            | 001 | 204 |             | 485 |      |
| 132        |     |     | gat | aat   | caq   |     |     | cct | ctt | ctt   |     | gag        | ccc | tta | σσα         |     | 1664 |
| 133        |     |     | _   |       | _     |     |     |     |     |       |     | Glu        |     | _   | _           |     |      |
| 134        |     |     | 1   | 1     | 490   | 1   |     |     |     | 495   |     |            |     |     | 500         |     |      |
| 135        | tca | acc | tct | qqa   |       | tgc | cta | ctq | tta |       |     | gaa        | qqq | atq |             | aaq | 1712 |
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| 137        |     |     |     | 505   |       | -   |     |     | 510 |       |     |            | -   | 515 |             | _   |      |
| 138        | tca | tac | tgo | agt   | ggg   | acg | gaa | cgg | gtg | agc   | ctg | atg        | gct | gat | ggg         | aag | 1760 |
| 139        |     |     |     |       |       |     |     |     |     |       |     | Met        |     |     |             |     |      |
| 140        |     |     | 520 |       |       |     |     | 525 |     |       |     |            | 530 |     |             |     |      |
| 141        | ato | ttt | gtg | gga   | agc   | ggc | agc | agt | gga | ggc   | act | gaa        | ggg | ctg | gtt         | atg | 1808 |
| 142        | Ile | Phe | Val | Gly   | Ser   | Gly | Ser | Ser | Gly | Gly   | Thr | Glu        | Gly | Leu | Val         | Met |      |
| 143        |     | 535 | i   |       |       |     | 540 |     |     |       |     | 545        |     |     |             |     | •    |
| 144        | aac | tca | gat | ata   | ctc   | ggt | gct | acc | aca | gag   | gtt | ctg        | att | gaa | gat         | tca | 1856 |

RAW SEQUENCE LISTING DATE: 04/17/2002 PATENT APPLICATION: US/10/067,741 TIME: 11:54:33

| 145<br>146 |      | <b>A</b> sn<br>550   |     | Asp | Ile  | Leu      |      |      | Thr  | Thr  | Glu  |      |      | Ile  | Glu   | Asp  |        |      |
|------------|------|--|-----|-----|------|----------|------|------|------|------|------|------|------|------|-------|------|--------|------|
| 147        |      |  |     |     |      |          |      |      |      |      |      |      |      |      |       | 1011 |        |      |
| 148        |      |  |     |     |      |          |      | Lyya | cay  | yaay | actt | 99 9 | year | yyya | c ay  | CLCa | gact   | 1911 |
| 149        |      | Asp Ser Ala Gly Pro 570  |     |     |      |          |      |      |      |      |      |      |      |      |       |      |        |      |
| 150        |      | ttgtatttaa aagttaaaaa ggacaaaaaa aaaaaaaaaa  |     |     |      |          |      |      |      |      |      |      |      |      |       |      | 1953   |      |
|            | 210> | SEQ ID NO: 2   |     |     |      |          |      |      |      |      |      |      |      |      |       |      | 1933   |      |
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| 154 <      |      |  |     |     | •    |          |      |      |      |      |      |      |      |      |       |      |        |      |
| 155 <      |      |  |     |     | OMO  | sapi     | ens  |      |      |      |      |      |      |      |       |      |        |      |
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| 160        |      |  |     |     | agag | ccqc     | qc a | qqqc | acaa | a cc | acac | aaaa | taa  | ааса | acc . | σσασ | cacaaa | 60   |
| 161        |      | gcacgagcgg agagccgcgc agggcgcggg ccgcgcgggg tggggcagcc ggagcgcagg cccccgatcc ccggcgggc ccccgggcc ccccggcctc cgggagactg |     |     |      |          |      |      |      |      |      |      |      |      |       |      | 120    |      |
| 162        |      | gcgcatgcca cggagcgcc ctcgggccgc cgccgctcct gcccgggccc ctgctgctgc   |     |     |      |          |      |      |      |      |      |      |      |      |       |      | 180    |      |
| 163        |      |  |     |     |      |          |      |      |      |      |      |      |      |      |       |      | catgtt | 240  |
| 164        |      |  |     |     | cagg |          |      |      |      |      |      |      |      |      |       |      | -      | 296  |
| 165        |      | _  |     | _   |      |          | •    |      |      |      | -    |      | _    | -    | _     | Phe  |        |      |
| 166        |      |  |     |     |      |          |      |      |      |      |      |      |      |      | 1     |      |        |      |
| 167        |      | acc  | aaa | cga | tct  | gcg      | ctc  | gtc  | cgg  | cgt  | ctc  | tgg  | agg  | agc  | cgt   | gcg  | ccc    | 344  |
| 168        |      |  |     |     | Ser  |          |      |      |      |      |      |      |      |      |       |      |        |      |
| 169        |      |  | 5   | -   |      |          |      | 10   | _    |      |      | •    | 15   |      | ,     |      |        |      |
| 170        |      | ggc  | ggc | gag | gac  | gag      | gag  | gag  | ggc  | gca  | qqq  | qqa  | ggt  | qqa  | qqa   | qqa  | qqc    | 392  |
| 171        |      |  |     |     | Asp  |          |      |      |      |      |      |      |      |      |       |      |        |      |
| 172        |      | 20   |     |     |      |          | 25   |      | _    |      | -    | 30   | _    | _    | -     | -    | 35     |      |
| 173        |      | gag  | ctg | cgg | gga  | gaa      | ggg  | gcg  | acg  | gac  | agc  | cga  | gcg  | cat  | ggg   | gcc  | ggt    | 440  |
| 174        |      |  |     |     | Gly  |          |      |      |      |      |      |      |      |      |       |      |        |      |
| 175        |      |  |     |     |      | 40       |      |      |      | _    | 45   | _    |      |      | _     | 50   | _      |      |
| 176        |      | ggc  | ggc | ggc | ccg  | ggc      | agg  | gct  | gga  | tgc  | tgc  | ctg  | ggc  | aag  | gcg   | gtg  | cga    | 488  |
| 177        |      | Gly  | Gly | Gly | Pro  | Gly      | Arg  | Ala  | Gly  | Cys  | Cys  | Leu  | Gly  | Lys  | Ala   | Val  | Arg    |      |
| 178        |      |  |     |     | 55   |          |      |      |      | 60   |      |      |      |      | 65    |      |        |      |
| 179        |      |  |     |     | ggt  |          |      |      |      |      |      |      |      |      |       |      |        | 536  |
| 180        |      | Gly  | Ala | Lys | Gly  | His      | His  | His  | Pro  | His  | Pro  | Pro  | Ala  | Ala  | Gly   | Ala  | Gly    |      |
| 181        |      |  |     | 70  |      |          |      |      | 75   |      |      |      |      | 80   |       |      |        |      |
| 182        |      |  |     |     | ggc  |          |      |      |      |      |      |      |      |      |       |      |        | 584  |
| 183        |      | Ala  | Ala | Gly | Gly  | Ala      | Glu  |      | Asp  | Leu  | Lys  | Ala  | Leu  | Thr  | His   | Ser  | Val    |      |
| 184        |      |  | 85  |     |      |          |      | 90   |      |      |      |      | 95   |      |       |      |        |      |
| 185        |      |  |     |     | ctg  |          |      |      |      |      |      |      |      |      |       |      |        | 632  |
| 186        |      |  | Lys | Lys | Leu  | Lys      | Glu  | Arg  | Gln  | Leu  | Glu  |      | Leu  | Leu  | Gln   | Ala  | Val    |      |
| 187        |      | 100  |     |     |      |          | 105  |      |      |      |      | 110  |      |      |       |      | 115    |      |
| 188        |      |  |     |     | ggc  |          |      |      |      |      |      |      |      |      |       |      |        | 680  |
| 189        |      | Glu  | Ser | Arg | Gly  | _        | Thr  | Arg  | Thr  | Ala  | _    | Leu  | Leu  | Leu  | Pro   | Gly  | Arg    |      |
| 190        |      |  |     |     |      | 120      |      |      |      |      | 125  |      |      |      |       | 130  |        |      |
| 191        |      |  |     |     | agg  |          |      |      |      |      |      |      |      |      |       |      |        | 728  |
| 192        |      | ьeu  | Asp | Cys | Arg  | Leu      | GŢĀ  | Pro  | GГĀ  |      | Pro  | Ala  | Gly  | Ala  |       | Pro  | Ala    |      |
| 193        |      |  |     |     | 135  | <b>.</b> |      |      |      | 140  |      |      |      |      | 145   |      |        |      |
| 194        |      | cag  | ccg | ccc | tcg  | tcc      | tac  | tcg  | ctc  | ccc  | ctc  | ctg  | ctg  | tgc  | aaa   | gtg  | ttc    | 776  |

RAW SEQUENCE LISTING DATE: 04/17/2002 PATENT APPLICATION: US/10/067,741 TIME: 11:54:33

| 195<br>196 | Gln         | Pro | Pro<br>150 | Ser  | Ser   | Tyr  | Ser      | Leu<br>155 | Pro  | Leu         | Leu  | Leu | Cys<br>160 | Lys   | Val  | Phe            |      |
|------------|-------------|-----|------------|------|-------|------|----------|------------|------|-------------|------|-----|------------|-------|------|----------------|------|
| 197        | аσσ         | tgg |            | gat  | ctc   | aσσ  | cat      | tcc        | tca  | gaa         | atc  | aaσ | aqq        | cta   | tat  | tac            | 824  |
| 198        |             | Trp | _          | _    |       |      |          |            | _    | _           |      |     |            |       |      |                |      |
| 199        |             | 165 |            |      |       |      | 170      |            |      |             |      | 175 | 5          |       | -1-  | -1-            |      |
| 200        | tat         | gaa | tct        | tac  | aaa   | aarr |          | aac        | ccc  | αaα         | cta  |     | tac        | tac   | aac  | CCC            | 872  |
| 201        | -           | Glu |            |      |       | _    |          |            |      |             | _    | -   | _          | _     |      |                | 072  |
| 202        | 180         | Giu | 261        | TAT  | GLY   | 185  | 116      | ASII       | FIO  | GIU         | 190  | Val | Cys        | Cys   | ASII | 195            |      |
|            |             |     |            |      |       |      | <b>.</b> |            | _+_  | <del></del> |      |     | ~~~        | a a + | ~~+  | _              | 020  |
| 203        |             | cac |            | -    | _     |      | _        | _          |      |             |      |     |            |       |      |                | 920  |
| 204        | Hls         | His | ьeu        | Ser  | _     | Leu  | Cys      | GIU        | Leu  |             | Ser  | Pro | Pro        | Pro   |      | Tyr            |      |
| 205        |             |     |            |      | 200   |      |          |            |      | 205         |      |     |            |       | 210  |                | 262  |
| 206        |             | aga |            | _    | _     | _    |          |            |      |             |      | •   | -          | -     |      | -              | 968  |
| 207        | Ser         | Arg | Tyr        |      | Met   | Asp  | Phe      | Leu        | _    | Pro         | Thr  | Ala | Asp        |       | Pro  | Asp            |      |
| 208        |             |     |            | 215  |       |      |          |            | 220  |             |      |     |            | 225   |      |                |      |
| 209        | _           | gtg |            |      |       |      | -        |            |      |             |      |     |            |       |      |                | 1016 |
| 210        | Ala         | Val | Pro        | Ser  | Ser   | Ala  | Glu      | Thr        | Gly  | Gly         | Thr  | Asn | Tyr        | Leu   | Ala  | Pro            |      |
| 211        |             |     | 230        |      |       |      |          | 235        |      |             |      |     | 240        |       |      |                |      |
| 212        | ggg         | ggg | ctt        | tca  | gat   | tcc  | caa      | ctt        | ctt  | ctg         | gag  | cct | ggg        | gat   | cgg  | tca            | 1064 |
| 213        | Gly         | Gly | Leu        | Ser  | Asp   | Ser  | Gln      | Leu        | Leu  | Leu         | Glu  | Pro | Gly        | Asp   | Arg  | Ser            |      |
| 214        |             | 245 |            |      |       |      | 250      |            |      |             |      | 255 |            |       |      |                |      |
| 215        | cac         | tgg | tgc        | gtg  | gtg   | gca  | tac      | tgg        | gag  | gag         | aag  | acg | aga        | gtg   | ggg  | agg            | 1112 |
| 216        | His         | Trp | Cys        | Val  | Val   | Ala  | Tyr      | Trp        | Glu  | Glu         | Lys  | Thr | Arg        | Val   | Gly  | Arg            |      |
| 217        | 260         |     |            |      |       | 265  | _        |            |      |             | 270  |     |            |       |      | 275            |      |
| 218        | ctc         | tac | tgt        | gtc  | caq   | gag  | ccc      | tct        | ctq  | gat         | atc  | ttc | tat        | gat   | cta  | cct            | 1160 |
| 219        |             | Tyr | _          | -    | _     |      |          |            | -    | -           |      |     |            |       |      |                |      |
| 220        |             |     | - 1        |      | 280   |      |          |            |      | 285         |      |     | - 4        | -     | 290  |                |      |
| 221        | cag         | ggg | aat        | aac  | ttt   | tac  | ctc      | σσa        | caq  | ctc         | aat  | tca | gac        | aac   | aaq  | aqt            | 1208 |
| 222        |             | Gly |            |      |       |      |          |            |      |             |      |     |            |       |      |                |      |
| 223        | <b>U 1</b>  | 011 |            | 295  |       | 0,10 |          | 1          | 300  |             |      |     | F          | 305   | -10  |                |      |
| 224        | can         | ctg | ata        |      | aad   | ata  | caa      | agc        |      | atc         | aac  | tac | aac        |       | cad  | cta            | 1256 |
| 225        | _           | Leu |            | _    | _     |      |          | _          |      |             |      | -   |            |       |      |                | 1230 |
| 226        | GIII        | Deu | 310        | GIII | цуз   | , ar | пта      | 315        | ny 5 | 110         | Oly  | CIB | 320        | 110   | 0111 | БСи            |      |
| 227        | 3.00        | cgg |            | a+a  | a a t | aat  | a+ a     |            | at a | + > 0       | 220  | cac |            | ant   | tac  | ccc            | 1304 |
| 228        |             | Arg |            |      |       |      |          |            |      |             |      |     |            |       |      |                | 1304 |
| 229        | TIIT        | 325 | Giu        | Val  | мър   | GIY  | 330      | TTP        | Val  | TYT         | Hall | 335 | 267        | 261   | TYT  | FIO            |      |
|            | -+ <i>-</i> |     | a + a      |      | +     | ~~~  |          | a+ ~       | ~~~  | 220         | ~~~  |     | + ~ ~      | 200   | 200  | ata            | 1352 |
| 230        |             | ttc |            | -    |       | -    |          | -          | -    |             | _    | -   |            |       | -    | -              | 1332 |
| 231        |             | Phe | TTE        | гля  | ser   |      | THE      | ьeu        | Asp  | ASII        |      | ASP | 261        | Arg   | THE  |                |      |
| 232        | 340         |     |            |      |       | 345  |          |            |      |             | 350  |     |            |       |      | 355            | 1400 |
| 233        | _           | gta |            | -    |       |      |          |            |      |             |      | _   | -          |       | -    |                | 1400 |
| 234        | Leu         | Val | Hls        | ьуs  |       | Pne  | Pro      | GTĀ        | Pne  |             | ше   | гĀг | Ата        | Pne   |      | Tyr            |      |
| 235        |             |     |            |      | 360   |      |          |            |      | 365         |      |     |            |       | 370  |                |      |
| 236        |             | aag |            |      |       |      |          |            |      |             |      |     |            |       |      |                | 1448 |
| 237        | Glu         | Lys | Ala        | _    | Şer   | Leu  | Gln      | Arg        |      | Asn         | Asp  | His | Glu        |       | Met  | Gln            |      |
| 238        |             |     |            | 375  |       |      |          |            | 380  |             |      |     |            | 385   |      |                |      |
| 239        | _           | ccg |            | _    |       |      |          |            |      |             |      |     |            |       |      |                | 1496 |
| 240        | Gln         | Pro | _          | Thr  | Gly   | Phe  | Thr      |            | Gln  | Ile         | Ser  | Phe |            | Lys   | Gly  | $\mathtt{Trp}$ |      |
| 241        |             |     | 390        |      |       |      |          | 395        |      |             |      |     | 400        |       |      |                |      |
| 242        |             | cag | _          |      |       | -    | _        |            |      | _           | -    | _   | _          | _     |      |                | 1544 |
| 243        | Gly         | Gln | Cys        | Tyr  | Thr   | Arg  | Gln      | Phe        | Ile  | Ser         | Ser  | Cys | Pro        | Cys   | Trp  | Leu            |      |

VERIFICATION SUMMARY DATE: 04/17/2002 PATENT APPLICATION: US/10/067,741 TIME: 11:54:34

Input Set : N:\Crf3\RULE60\10067741.raw
Output Set: N:\CRF3\04172002\J067741.raw

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L:1038 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40
L:1050 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41
L:1062 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42